

# Expedition 4 Returns

By Lisa Tidwell

Expedition 4 Commander Yuri Onufrienko and Flight Engineers Daniel Bursch and Carl Walz returned to Earth June 19 after a record-setting stay on the International Space Station.

Below are some highlights from their mission:

- ◆ During Expedition 4's 196 days in space, Walz and Bursch broke the U.S. spaceflight endurance record. The previous record was 188 days, which was held by Astronaut Shannon Lucid.
- ◆ Walz holds the U.S. record for most cumulative time in space with 231 days, and Bursch is second with 227 days. This was Onufrienko's second long-duration flight, giving him a total of 389 days.
- ◆ The Expedition 4 crew performed three space walks, including the first space walk to be based out of Quest (the airlock that accommodates either Russian or U.S. spacesuits) without a space shuttle docked to the station.
- ◆ STS-110 delivered the 43-foot-long S0 Truss – the backbone for future station expansion – to the ISS. The S0 Truss is the first of nine pieces that will make up the station's external framework, which will eventually stretch 356 feet.
- ◆ The most ISS science experiments, 27, took place during Expedition 4's watch.
- ◆ A ferry crew brought 4S, the fourth Soyuz spacecraft parked to the ISS.
- ◆ Expedition 4's first space walk, on Jan. 14, lasted six hours and three minutes. Onufrienko and Walz relocated the cargo boom for the Russian Strela crane and installed an amateur radio antenna onto the end of the Zvezda Service Module.
- ◆ During Expedition 4's second space walk, Jan. 25, Onufrienko and Bursch installed six deflector shields for the Zvezda Service Module's jet thrusters. Also, they installed an amateur radio antenna, attached four science experiments, and retrieved and replaced a device to measure material from the thrusters.
- ◆ The crew returned to Earth aboard *Endeavour*, landing on runway 22 at Dryden Flight Research Center, Edwards Air Force Base, Calif. Three days of unfavorable weather conditions at KSC prompted the decision to land at Edwards, which enjoyed pristine, dry conditions.

To read **Astronaut Dan Bursch's** 120-day report about his experiences aboard the ISS, please visit:  
<http://spaceflight.nasa.gov/station/crew/exp4/120days.html>

To read what **Astronaut Carl Walz** had to say about his Feb. 20, 2002, space walk, please visit:  
<http://spaceflight.nasa.gov/station/crew/exp4/eva/spacewalking.html>



- A. Astronaut Carl E. Walz, Expedition 4 flight engineer, catalogs canisters of water in the Zvezda Service Module on the ISS.
- B. Expedition 4 Commander Yuri I. Onufrienko welcomes Soyuz 4 visitors South African space flight participant Mark Shuttleworth (left) and flight engineer Roberto Vittori of the European Space Agency (right).
- C. Walz performs his duties while living aboard the ISS.
- D. Astronaut Daniel W. Bursch, flight engineer, and Onufrienko (right) perform maintenance on equipment in the Zvezda Service Module.

